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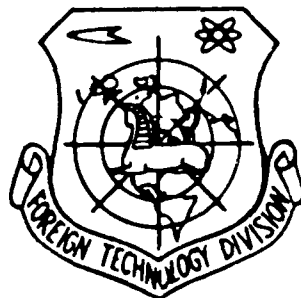
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LASER

by

Yu. N. Mikhaylov, A.A. Mak, et al.



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HUMAN TRANSLATION

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By: Yu. N. Mikhaylov, A.A. Mak, et al.

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Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З з	<i>З з</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й й	<i>Й й</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, shch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	'
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

*ye initially, after vowels, and after Ъ, Ы; e elsewhere.
When written as ѣ in Russian, transliterate as yě or ě.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	\sinh^{-1}
cos	cos	ch	cosh	arc ch	\cosh^{-1}
tg	tan	th	tanh	arc th	\tanh^{-1}
ctg	cot	cth	coth	arc cth	\coth^{-1}
sec	sec	sch	sech	arc sch	sech^{-1}
cosec	csc	csch	csch	arc csch	csch^{-1}

Russian English

rot curl
lg log

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LASER

Yu. N. Mikhaylov, A. A. Mak, A. I. Stepanov, B. G. Malinin,
L. N. Soms, and O. N. Voron'ko

The invention pertains to the field of applications of lasers.

↓
There exist solid-state lasers whose working bodies have the shape of cylinders of different diameters. But when operating in the periodic mode and with intensive cooling of the surface of the active element, a thermal lens is formed in the rod, causing the outgoing radiation to increase in divergence, which can lead to malfunctioning of the active element.

The purpose of the invention is to increase the allowable repetition frequency of the radiation pulses, that is, to increase the mean laser radiation power and to narrow its radiation pattern. *Keywords: frequency; solid state lasers; pulsed*

100% Russian translation. (1972)

This purpose is realized by the fact that the working body of the laser is made in the form of a set of thin plates made of the active material and separated from each other by gaps.

Essentially, the invention is explained by the drawing,

which shows the working body 1, plates 2 filtering radiation from the laser pumping lamps, gaskets 3 between individual plates of the active element, illuminator 4, pumping lamps 5, and gaps between the plates through which a coolant flows.

Since the temperature drop from the center to the edge of a flat plate with a cross-section equal to that of a cylindrical rod is less than the temperature drop in the cylindrical rod for the same thermal power released in the specimens, for specimens made in the form of a set of thin plates the limiting thermal power that can lead to malfunctioning of active element quality is much higher than for specimens of circular cross-section with equal area.

The invention makes it possible to increase, by tenfold, the mean radiation power received from an active element of the same size and to reduce by severalfold the divergence of the outgoing laser radiation.

Claim of Invention

Laser containing an active element in the form of a plane-parallel plate, an optical resonator, and pumping lamps, is distinguished by the fact that, in order to increase the power, the active element is made of a set of plane-parallel plates cemented along their edges, with a gap for a coolant in the central part, mounted in an illuminator made in the form of two solid semicylinders with holes for the pumping lamps.

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